



## INFORMATION AND COMMUNICATION

*Goal: Collect and analyze internal and external information to monitor and enhance program effectiveness. Communicate internally and externally to accomplish our mission and to build an understanding of the Federal role in wildlife damage management.*

### INFORMATION SERVICES

**NWRC Library**—The NWRC library continued its commitment during 1998 to expand electronic access to publications and other research information. The NWRC Website was updated to enhance overall appearance and readability. Additions included new photos and text, the 1996 and 1997 NWRC highlights reports, annual publications lists for 1990–98, the NWRC brochure, and introductions to the various Center research programs with image map links to corresponding projects.

Library staff studied various options available for providing materials full-text on the Web and chose to implement use of Adobe's portable document format in order to make all 1998 Center publications available for downloading. An e-mail address was added to the home page to provide a direct contact point for our Web users, and the library began functioning as the referral point for all incoming e-mail.

Numerous publications needed distribution in 1998, and the library staff mailed out more than 400 copies of "Contraception in Wildlife Management" and 470 copies of the "Repellents in Wildlife Management Proceedings." In addition, 3,126 copies of the 1997 version of the present highlights report, the Center's Research Update newsletter, the new Center brochure, and the 1997 annual publications list were mailed.

To provide research and operations staff with needed information, Library staff requested more than 1,100 books and photocopies

from other institutions and sent more than 360 items to outside requesters. More than 11,000 photocopies of inhouse library materials were made and distributed to various individuals and projects. Library personnel provided 265 literature searches on subjects such as corvid predation on shore birds, plant species with possible chemical repellent properties, deer and black bear damage, gull predation on salmon and trout, vulture control and ecology, and food habits of such species as the yellow bittern and the bullfrog. Library personnel also provided extensive citation searching on

rodent species to aid WS Operations staff in compiling information for the rodent damage control and environmental assessments.

A Windows™-based interface was purchased for the online catalog, as well as cataloging and serials software. To provide more immediate access to wildlife literature citations for WS end users, the library, on a trial basis, instituted limited Internet access to an online wildlife database. Response from users was overwhelmingly favorable, and NWRC will provide access to a larger number of users in FY 1999.

**Archives**—Current research documents and historic material continued to be processed and added to the NWRC archives. Various quality assurance (QA) studies, pilot studies, lab notebooks, and chemical methods were archived. More researchers from outside NWRC made use of the Center's archive services. In 1998, eight requests for a wide variety of materials from the miscellaneous research collections were processed. Previously archived NWRC Animal Care Committee records were inspected by APHIS' Animal Care Program in 1998, and QA research records were audited by EPA in April.

**Information on Stored Food Protection Going on the Internet**—The Food and Agriculture Organization of the United Nations is compiling "Postharvest Compendium," a comprehensive book on postharvest food information that will be available on the World Wide Web. This book will be useful in the design, organization, or implementation of postharvest programs, including technical assistance projects and applied research.

NWRC scientists produced a chapter for this electronic publication on the management of rodent, bird, and other vertebrate pests of farm-stored grains and legumes. The chapter presents an overview

of reported losses by country and a brief account of the major pest species including rats, sparrows, pigeons, and crows. It also describes recognition of signs and damage of various species and basic approaches to reducing losses, including sanitation, prevention of pest access to foods, and population reduction strategies. Additional references and technical assistance sources are presented.

Postharvest food losses to vertebrates occur worldwide and can be especially severe in developing countries. As the world's human population continues to increase, the importance of stored food protection at the farm level can be expected to intensify.

## SEMINARS

During FY 1998 NWRC continued seminars by its own and visiting to be a focal point for interesting scientists.

### NWRC SEMINARS

Speaker	Affiliation	Title
Robert Mason and Michael Greene	Oregon State University	Research on Brown Tree Snake Reproduction
Steve Bagenski	APHIS, Plant Protection and Quarantine	Overview of Plant Protection and Quarantine Activities in Miami, FL
Mary Coussons-Reas	University of Colorado-Denver	Stress and Immunity: Bidirectional Relationships in Animals
Brian Petroff	Ohio State University	Regulation of Uterine and Ovarian Function by Prostaglandin F-2 alpha
Mark Drew	Texas A&M	Application of Assisted Reproduction Techniques to Wildlife Populations and Population Management
Cathy Nowak	Washington State University	Mountain Lion Foraging Ecology
John Johnston	NWRC-Fort Collins	Information Transfer Between Wildlife Services Research (NWRC) and Operations
Kevin Schnorr	Louisiana State University	Infectious Disease Investigations Using Monoclonal Antibodies
Paul Curtis	Cornell University	Technology Applications for Wildlife Management
James Glahn	NWRC-Starkville	Fish-Eating Bird Predation at Aquaculture Facilities: Problem Identification and Control Methods Development
Gwen Stevens	Colorado State University	The Evaluation of an Integrated Bird Hazing System at the Jim Bridger Power Plant-Rock Springs, WY
Ray Sterner	NWRC-Fort Collins	Development of Rodent Repellants
Bruce Bryant	Monell Chemical Senses Center	Pain in a Dish: In Vitro Approaches to Measuring Repellancy
Dale Nolte	NWRC-Olympia	Wildlife Damage to Forest Resources and Bear Damage to Agricultural Resources
Beatriz Villa	National University of Mexico	Rodent Pests in Mexican Sugarcane

## MEETINGS, WORKSHOPS, AND CONFERENCE PRESENTATIONS

NWRC scientists make significant efforts to get research information out to the scientific community, customers, clients, and the general public. The following selected activities show both the diverse nature of NWRC's research and its varied stakeholder and interest groups.

**Wildlife Service State Meetings**—NWRC biologists made numerous presentations on predator management, bird-aquaculture research, bear damage research, and beaver damage to timber resources at various WS State and regional meetings in California, Colorado, Mississippi, Montana, North Carolina, Oregon, South Carolina, Utah, Virginia, West Virginia, and Wyoming.

**Wildlife and Their Impacts Workshop**—NWRC personnel conducted a 2-day workshop on wildlife and their impacts in Chewelah, WA, in October 1997, at the request of the Washington State University (WSU) Cooperative Extension. Participants were private timber producers looking for feasible approaches to alleviate wildlife damage to forest resources. The workshop provided information to more than 100 individuals on how to identify damage to forest resources by bears, beavers, birds, deer, elk, jackrabbits, mountain beavers, pocket gophers, porcupines, snowshoe hares, and voles. A general overview of damage control techniques, such as barriers, behavior modification,

habitat manipulation, repellants, rodenticides, and traps, was also presented. The workshop included time for the participants to discuss ongoing problems and case studies.

### **Experimental Aircraft Association Chapter 50 Meeting**

A biological technician of the NWRC Sandusky, OH, field station made a presentation entitled "On a Wing and a Prayer, or a Better Way to Avoid Wildlife Strikes" at the monthly meeting of the Experimental Aircraft Association Chapter 50 in Huron, OH, on October 5, 1997. The talk reviewed the consequences involved when aircraft collide with birds and deer and provided information on avoiding such interactions. The importance of completing the FAA Bird and Other Wildlife Strike Report Form was also emphasized.

**Wildlife Damage Management for Natural Resource Managers Symposium**—The NWRC Olympia field station, the Collaborative Research Team, and the Western Forestry and Conservation Association sponsored a 2-day symposium on wildlife damage management for natural resource managers in October 1997. The symposium presented materials on means to alleviate wildlife damage to forest resources. About 140 participants from 8 States and Canada, representing a variety of State and Federal agencies as well as private companies, attended the event.

The first day included sessions on an overview of controls: why they work and how they function and management tools for animal damage. A session on implementing a damage prevention program was followed by field demonstrations and displays.

Displays provided information on the general biology, damage identification and damage management techniques for specific problem animals in the Northwest. Technical experts at each of these displays demonstrated techniques (e.g., problem identification, trapping, barriers) and answered questions. Other displays presented overview information on frightening devices (e.g., effigies, pyrotechnics), barriers, repellants, and supplemental feeding. Technical experts answered questions and offered advice on how and when these techniques could effectively be implemented.

**Eighth Eastern Wildlife Damage Management Conference**—Biologists from NWRC field stations in Florida, Ohio, and Mississippi attended the eighth Eastern Wildlife Damage Management Conference in Roanoke, VA, in October 1997. They reported on research investigating the use of repellants to control wading-bird damage to commercial ornamental fish farms, electric fences to exclude herons from commercial trout hatcheries, nesting populations of great blue herons and great egrets in the United States and Canada, wildlife-caused losses for commercial catfish producers, and baits to control grackle damage to ripening citrus.

**Agriculture Under Secretary Dunn's Visit**—Under Secretary of Agriculture Michael Dunn met with staff of the NWRC Hilo, HI, field station and other personnel from WS, Plant Protection and Quarantine, and Veterinary Services on October 31, 1997. Participants toured the facilities, viewed poster displays about field station activities, and were briefed about WS operations and research in Hawaii by WS staff from Honolulu and Hilo.

**Ohio State University Students**—The NWRC Sandusky, OH, field station and Ohio WS program hosted 16 graduate and undergraduate wildlife biology students from Ohio State University at the 6,000-acre Plum Brook Station on October 10 and November 14, 1997. Students were given instruction in scientific method by collecting data to estimate the size of a deer population. In addition, field demonstrations and lectures on wildlife damage control techniques were provided. Speakers emphasized emerging conflicts between wildlife and people and the integrated research and management programs needed to resolve these conflicts. This is the 13th year the Ohio field station has hosted these field exercises to educate natural resource students about the importance of wildlife damage control as a key component of the wildlife profession.

**Predator Seminars**—An NWRC scientist from the Logan, UT, field station was invited to present seminars on October 24, 1997, at San Antonio College, TX, and on December 5, 1997, at CSU in Fort Collins. The titles of the presentations, respectively, were "Wolf and Coyote Populations in Yellowstone National Park" and "Social Ecology and Behavior of Coyotes in Yellowstone."

#### **Western Coordinating Committee—95 Annual Meeting—**

Several NWRC biologists attended the 3-day Vertebrate Pests of Agriculture, Forestry, and Public Lands meeting in November 1997 in Reno, NV. Presentations covered topics on new approaches to reducing gnawing and digging behaviors in the northern pocket gopher and the efficacy of selected commercial deer repellants.

#### **Bird Strike Canada Meeting—**

A member of NWRC's Sandusky, OH, field station staff attended the 27th annual meeting of the Bird Strike Committee in November 1997 in Ottawa, Canada, where she reported on the status of the U.S. National Bird Strike data base to Committee members and a representative from the International Civil Aviation Organization. This data base, which the Sandusky field station manages for the FAA, contains more than 17,000 records of bird strikes to civilian aircraft in the United States from 1990 to 1997. The Organization is incorporating these records into its worldwide data base. Information contained in these data bases is crucial for defining the extent and nature of bird strike problems for airports throughout the world so that corrective actions can be justified and taken.

#### **Colonial Waterbirds Society Annual Meeting—**

NWRC biologists presented papers on the American white pelican and cormorant foraging and roosting behavior at the Colonial Waterbirds Society Annual Meeting in Lafayette, LA, during November 1997.

#### **Ohio Coordinating Committee for the Control of Depredating Birds Annual Meeting—**

The staff of the NWRC Sandusky field station presented research findings from 1997 at the annual meeting of the Ohio Coordinating Committee for the Control of Depredating Birds in Columbus, OH, on December 1, 1997. The Committee, which is comprised of representatives from agriculture, the pest control industry, State and Federal agencies, and universities, has met annually since 1965 to discuss vertebrate pest problems in Ohio and to provide direction for research and management efforts.

A major topic of interest to corn farmers at the meeting was an NWRC presentation showing that red-winged blackbird populations had declined 70 percent Statewide from 1966 to 1996. Another major area of discussion regarded the spread of raccoon-strain rabies into Ohio and the newly funded oral-vaccine bait program for the State. In addition, concerns were expressed regarding increased nuisance problems caused by roosting turkey vultures.

#### **Midwest Fish and Wildlife**

**Conference—**The 59th Midwest Fish and Wildlife Conference was held in December 1997 in Milwaukee, WI. NWRC presentations included papers on catfish exploitation by double-crested cormorants, the response of invertebrates to herbicide-induced habitat alterations in wetlands, winter home range and habitat use of female ring-necked pheasants in southeastern North Dakota, and nesting populations of double-crested cormorants in the United States and Canada.

#### **Armed Forces Pest Management Board Meeting—**

NWRC biologists from the Sandusky field station and Fort Collins represented the WS program at the annual meeting of the Armed Forces Pest Management Board held in January 1998 at the USDA Agriculture Research Service (ARS) conference center in Gainesville, FL. This meeting reviews USDA research of interest to the DoD and provides the basis for DoD recommendations to USDA for future research activities. Representatives from ARS and the USDA Forest Service were also present. Overviews of NWRC research activities, an update on BTS research, and findings on research to reduce bird-aircraft collisions at military installations were presented. These presentations specifically related to the use of infrared cameras to monitor deer populations, tall grass management at airports, Canada goose repellent tests, and woodpecker damage management. NWRC presently receives funding from the DoD and FAA for research in these areas.

#### **Sunflower Research Workshop—**

During the Sunflower Research Workshop held in January 1998 in Fargo, ND, NWRC biologists presented posters on cattail-spraying operations in North Dakota and blackbird densities and sunflower damage in Stutsman County, ND. Workshop attendees were public and private researchers from the United States, France, Brazil, Canada, Belgium, and Australia.

#### **Cormorant Management Workshop—**

Biologists from NWRC's Mississippi and Ohio field stations participated in a 2-day regional workshop in January 1998 in Glen Falls, NY, to discuss cormorant management in the Northeast. The workshop was sponsored by the Northeast Wildlife Administrators Association in cooperation with WS and the U.S. Fish and Wildlife Service and included various U.S. and Canadian Federal, State, and university administrators and scientists from the Northeast. The workshop focused on biota-natural community impacts, fisheries impacts, and human dimension issues. A proceedings will be issued in 1999 summarizing the presentations by workshop participants and their recommendations relating to future management and research needs.

#### **Fifth Annual Fish Farming**

**Trade Show—**Biologists from NWRC's Starkville field station and the Mississippi and Alabama WS operations programs attended the 5th annual fish farming trade show in Greenville, MS, in February 1998. More than 1,000 people from Alabama, Arkansas, Louisiana, and Mississippi attended the show. NWRC and the Mississippi WS State office exhibited a joint poster highlighting an ongoing harassment program to disperse double-crested cormorants from night roosts near fish farms as well as research currently being conducted to alleviate depredations by cormorants, American white pelicans, and wading birds.

**Erie, OH, School Presentations**—Biologists from NWRC's Sandusky field station presented demonstrations on wildlife research and damage control to about 400 sixth-grade students as part of a 2-day program in conservation education sponsored by the Erie Soil and Water Conservation District. This is the 13th year that personnel from the Ohio field station have cooperated with the District in this event. In these presentations, more than 6,000 students have been introduced to the WS program and the concept of wildlife damage control as an important part of environmental conservation.

**Colorado State University Career Fairs**—NWRC presented a display highlighting research activities and passed out brochures and pamphlets about WS and NWRC at two CSU career fairs in 1998. The CSU Natural Resources Career Fair was held in February 1998 at the Front Range Student Ecology Symposium. The purpose of the career fair was to provide an informal setting for students to learn more about career options and opportunities within natural-resources-oriented State and Federal agencies and private industries. The Front Range Student Ecology Symposium was held in March 1998 and supported the exchange of information between students and researchers. The displays attracted many people and generated great interest in NWRC's research program.

### **University of Nebraska at Lincoln Students and Faculty**

**Visit**—NWRC hosted 29 students and 2 faculty members from the wildlife program of the University of Nebraska—Lincoln (UN—L) in February. This was UN—L's second field trip to the NWRC in Fort Collins. The current research program of NWRC was detailed for the visitors in briefings, laboratory demonstrations, a field site visit, and a tour of NWRC's indoor Animal Research Building on the Foothills Campus of CSU. Briefings were provided on a wide range of the Center's research topics, including brown tree snakes, prairie dog sterilization and behavior, use of the Internet and the NWRC research library, trap evaluation, Geographic Information System applications, woodpecker repellants, goose—aircraft hazards at Elmendorf Air Force Base, egg oiling, repellants to reduce blackbird damage to rice, immunocontraception in mammals and birds, and the pesticide registration process. Two former M.Sc. graduates of the UN—L program are currently employed by NWRC, and a total of 14 UN—L wildlife graduates are employed throughout the WS program.

### **Rabies Management Team**

**Meeting**—NWRC hosted a 3-day meeting of the Rabies Management Team of WS in Fort Collins in February. The Team is chaired by Denis Slate (WS—New Hampshire) and includes WS representatives from Texas, New York, Ohio, Maryland, Operational Support Staff, and NWRC. The Team invited expert consultants from Cornell University, the Centers for Disease Control and Prevention,

the University of Georgia, and from State health departments in New York, Ohio, Texas, and Vermont. The purpose of this important gathering was to discuss oral rabies vaccination and management programs for wildlife rabies in these States, methods and new developments in oral rabies vaccination, and future needs that could be provided by the program. WS will be cooperating with these four State wildlife rabies management and vaccination programs to provide specific wildlife assistance funded by a special congressional appropriation to support this increased involvement in rabies control efforts.

### **First North American Swift Fox Symposium: Ecology and Conservation of Swift Foxes in a Changing World**

NWRC biologists presented papers on the ecology, resource partitioning, and population of the swift fox at this 6-day meeting held in Saskatoon, SK, Canada, in February.

### **Department of Defense Pest Management Workshop**

NWRC's Sandusky field station leader represented NWRC at the DoD Pest Management Workshop at the Naval Air Station, Jacksonville, FL, in February. He made presentations on research related to technologies for bird and wildlife aircraft strike hazard reduction and water and vegetation management on airports to reduce bird hazards. The workshop was attended by 200 military and civilian pest management professionals. Bird strikes cost the U.S. Armed Forces more than \$100 million a year.

### **Rice Technical Working Group**

An NWRC biologist gave a presentation on rice seed treatments to deter blackbirds last March at the 27th Rice Technical Working Group in Reno, NV. The Rice Technical Working Group draws an international audience of rice researchers, growers, and other industry members to discuss current rice research, crop production, crop protection, and marketing.

### **Vertebrate Pest Conference**

In March 1998 the 18<sup>th</sup> Vertebrate Pest Conference was held in Costa Mesa, CA. Highlights of the meeting included a field trip that focused on historical and current wildlife-related disease and urban wildlife issues in the Los Angeles area; the keynote address was presented by NWRC's Richard Dolbeer, who called for scientists in wildlife damage management to base research and management decisions on the population dynamics of target species. NWRC staff presented 21 of the 80 technical papers and participated in a technology exposition that demonstrated innovative computer technologies of possible use in wildlife damage management.

#### **Fourth International Hemorrhagic Fever Conference—**

An NWRC biologist from Fort Collins attended the fourth quadrennial International Conference on Hemorrhagic Fever with Renal Syndrome and Hantaviruses held in March 1998 in Atlanta. The conference offered paper and poster sessions on a wide variety of topics related to hantavirus epidemiology. A special presentation by NWRC discussed managing rodent populations in hantavirus-endemic areas and emphasized short-term chemical and non-chemical control methods as well as long-term preventative techniques designed to reduce human incidence of disease in rural areas. About 230 participants attended from around the world.

#### **Brown Tree Snake Coordination Committee Meeting—**

A research biologist from NWRC's Hilo, HI, field station presented an overview of the Center's recent methods development research at a BTS coordination meeting in Honolulu in March. The meeting was attended by representatives of Federal, State, and Territorial agencies involved with the control of this exotic pest species. Presently, WS has operational personnel working on BTS control on the island of Guam, and NWRC scientists are developing chemical techniques for BTS control, both with funding provided by the DoD.

#### **Forest Regeneration and Site Preparation Short Course—**

An NWRC biologist from Fort Collins conducted portions of a short course over 4 days in March and April at the University of Idaho in Moscow. One of the challenges of reforestation efforts is the damage caused by various mammals. The biologist gave an overview of the general approach to assessing damage, legal aspects of wildlife damage management, and the use of integrated pest management strategies to resolve damage. Using voles, pocket gophers, hares, deer and elk as examples, the biologist reviewed their biology, habitat use patterns, and relations to silvicultural practices. The 30 forest managers in attendance were from Idaho, Montana, Oregon, and Washington and represented several national forests, State forestry departments, Native American tribes, and private forestry companies.

#### **Hawaii Macadamia Nut Association—**

NWRC biologists presented papers on roof-rat management in macadamia orchards and rat damage-control research in Hawaiian agricultural crops at the 38th Hawaii Macadamia Nut Association Conference held in May in Waikaloa, HI. About 100 industry representatives attended the annual meeting.

#### **Northeast Association of Wildlife Damage Biologists—**

An NWRC biologist presented a paper entitled "Lethal Control of Piscivorous Birds at Aquaculture Facilities in the Northeast USA: Effects on Populations" at the annual meeting of the Northeast Association of Wildlife Damage Biologists in Camp Hill, PA, last May. Lethal control of fish-eating birds at aquaculture facilities has raised concerns as to the effects on the distribution and abundance of populations of species identified on depredation permits. However, regional and State population trends, as well as model simulations, indicated that the numbers of birds killed under permit at aquaculture facilities had negligible effects on the population status of the respective species. Management recommendations included the continued development of a data base of permit information by the U.S. Fish and Wildlife Service and the use of population modeling in evaluating the effects of planned and implemented programs of lethal control.

#### **Chemical Senses Center**

**Executive Dinner—**An NWRC scientist attended the Monell Chemical Senses Center Executive Dinner in May in Philadelphia. His presentation focused on how species-selective response to bitter flavor can be used to reduce pesticide ingestion by nontarget vertebrates. The executive dinner was attended by more than 40 chief executive officers from Government organizations and the medical, food, and fragrance industries.

#### **Catfish Farmers of America—**

A review of NWRC research on double-crested cormorants was presented to the past and present executive directors of the Ornithological Council and to the executive director of the Catfish Farmers of America at Mississippi State University in May.

#### **Bird Strike Committee—USA**

**Conference—**About 320 people attended the eighth annual meeting of the Bird Strike Committee—USA (BSC—USA) at Burke Lakefront Airport, Cleveland, OH, in June. The meeting, which received extensive newspaper and television coverage, was organized by NWRC biologists from Sandusky in cooperation with the city of Cleveland. In all, 25 technical papers and posters were presented on topics related to reducing wildlife collisions with aircraft. A highlight of the conference was the demonstration of 20 techniques for managing wildlife at airports during an all-day field trip to the airport and a nearby gull colony. Fourteen companies exhibited their wildlife management products.

The goal of BSC—USA is to increase communication and professionalism among the diverse groups dealing with wildlife issues at airports, and the 1998 meeting appeared to be highly successful in this regard. The 1999 meeting will be held jointly with Bird Strike Committee—Canada on May 8–12 at the Vancouver [BC] International Airport.

**Fertility Control in Coyotes Symposium**—In June the NWRC Predation Ecology field station and the Berryman Institute of Utah State University hosted a symposium on fertility control in coyotes, as part of the 79<sup>th</sup> annual meeting of the Pacific division of the Association for the Advancement of Science. Symposium participants were given guided tours of the field station. About 40 participants representing a variety of organizations, including university professors, scientists and biologists from California, Colorado, Nevada, New Mexico, and Utah, attended. Speakers from the NWRC, Utah Wildlife Services, the Berryman Institute, and the University of Wyoming presented talks on WS operations, applications of contraception to depredation management, the endocrinology of immunocontraception, and possible methods for the oral delivery of contraceptive vaccines.

**Western Oregon Forest Protection Association Workshop and Field Tour**—An NWRC biologist made a presentation on wildlife impacts on private timber lands in July at the Association meeting in Burnt Woods, OR.

**Predation Ecology Field Station Tour**—On July 20, NWRC's Predation Ecology field station in Logan, UT, hosted a visit of the American Farm Bureau; Utah and Arizona State legislatures; fish and game officials from Ohio, Arizona, and Utah; and representatives from

the Humane Society of the United States, Animal Welfare Institute, Defenders of Wildlife, Rocky Mountain Elk Foundation, and the USDA Cooperative State Research, Education and Extension Service. Field station scientists outlined research activities, and the Utah WS State director discussed the importance of the NWRC to the WS operational program. The visit to the station's Millville research facility was a featured segment of a conference on wildlife damage to agriculture hosted by the Berryman Institute at Utah State University over the next 2 days.

**Brown Tree Snake Research Symposium**—In July APHIS and the U.S. Geological Survey jointly sponsored the 1998 Brown Tree Snake Research Symposium in Honolulu. This symposium provided opportunities for researchers and managers to discuss research progress on the BTS. Topics included BTS biology; trapping strategies and snake movements; development of attractants, repellants, toxicants, and fumigants; barriers; snake detector dogs; and large-scale control. A concluding session provided managers the opportunity to present their perspectives on research progress and to identify important areas in which further work is needed. More than 100 personnel from research and management agencies (including 15 research and management personnel from WS) participated in the symposium.

**International Bird Strike Committee Annual Meeting**—A wildlife biologist from the NWRC Ohio field station represented USDA and Bird Strike Committee—USA at the 24th meeting of the International Bird Strike Committee (BSC) in Stara Lesna, Slovakia in September. More than 100 scientists, military personnel, and representatives of the aviation industry from 26 nations met to discuss economic and safety issues related to bird collisions with aircraft. The new USDA–FAA bird strike reporting poster entitled “Strike One—You’re Out,” which has been distributed to airports in the United States, was displayed and featured on Slovakian television news coverage of the conference. In addition, the employee presented a paper, based on a 7-year study at Kennedy Airport, in New York, comparing the effectiveness of falconry and the shooting of gulls to reduce bird collisions with aircraft. The paper concluded that, although falconry has received considerable positive publicity in the media, there has been no statistical evidence of a reduction in strikes attributed to falconry. In contrast, shooting has received negative publicity but has resulted in a significant reduction in strikes. The speaker reinforced the obligation of scientists to be leaders in ensuring that the public has factual information regarding the effectiveness of wildlife control techniques.

**Wildlife Society Annual Meeting**—Nine NWRC scientists and two Center-sponsored graduate students attended the Wildlife Society's fifth annual conference in Buffalo, NY, in September. Several NWRC scientists participated in the full-day workshop on the status and future of wildlife fertility control, made six presentations and served on the panel discussion session. The workshop was well attended, and an informative workbook that included abstracts and reprints from scientific literature was provided to participants. In contributed paper sessions, 4 scientists presented 4 papers on carnivore ecology and management, wildlife–airport issues, and the ecological consequences of introduced wildlife species. One scientist moderated a session on wildlife damage and policy and advised students in a special session on Federal employment opportunities. Scientists also participated in Wildlife Society working group meetings and a Rabies Task Force meeting. The conference was attended by more than 1,000 biologists and resource managers from around the world and provided an outstanding forum for interaction.

**Australian Vertebrate Pest Conference**—An NWRC scientist presented a paper in May entitled “Efficacy of the Methods Used in an Integrated Program to Deter the Dispersal of Brown Tree Snakes from Guam” to this international conference of researchers, managers, and operational personnel involved in reducing wildlife damage. The paper summarized more than 3 years of data on the efficacy of several control methods (trapping, detector dogs, and fenceline searchers) currently used to prevent brown tree snakes from leaving Guam.

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